

Biosolids Environmental Management System



King County
Department of
Natural Resources and Parks
Wastewater Treatment Division

October 2006



The EMS is a rigorous system which brings together all wastewater personnel to attain the highest quality of biosolids possible at reasonable cost.

Recycling
Partners
in the EMS:

Great Western Soil
Conditioners Inc.

Natural Selection
Farms Inc.

Boulder Park Inc.

RAMCO Inc.

GroCo Inc.

2006 Performance Report

Over the past year, King County's Wastewater Treatment Division (WTD) continued to implement and improve its voluntary Environmental Management System (EMS) for biosolids. Since WTD's certification into the National Biosolids Partnership's EMS in July 2004, we have focused on continual improvement in the production and management of high quality biosolids. We have:

- Refined our procedures
- Accomplished significant goals and objectives
- Conducted our second annual EMS Management Review
- Improved our biosolids quality and management practices

Read on to learn more about how King County is encouraging the production, use and marketing of cost effective, environmentally sound biosolids and following the national Code of Good Practice.

Goals & Objectives - Outcomes Matter

We established goals and objectives to meet stringent NBP requirements and to complement work on the Productivity Initiative's Balanced Scorecard, a strategic management system. Our goals included:

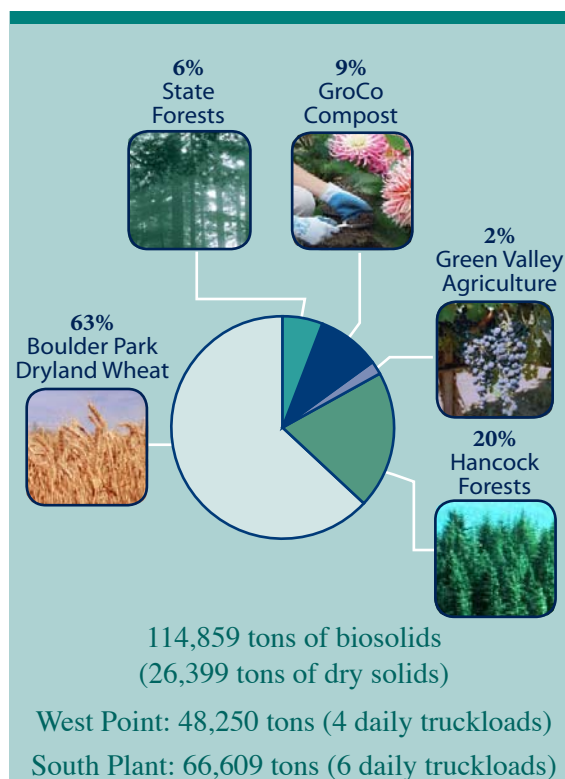
- Maintaining our third party EMS certification
- Evaluating ways to improve our biosolids practices and biosolids quality
- Continuing our public participation and communication activities

We gave particular attention to improving our performance in the following four key areas and are happy to share our accomplishments in each:

1) Environmental performance

- Pilot-tested the use of biodiesel (20 percent blend = B20) in five haul trucks for several months. After five

(Continued on pg. 2)



Biosolids are the nutrient-rich, organic, soil-like product of wastewater treatment.

**OVER 114,000 WET TONS OF
BIOSOLIDS AT WORK IN 2005**

Goals & Objectives - Outcomes Matter (Continued from Pg. 1)

months, converted entire biosolids truck fleet to B20 biodiesel to reduce greenhouse gas emissions.

- Reduced silver concentrations by 40 percent in our biosolids over last 2.5 years thanks in part to outreach by the Industrial Waste and Local Hazardous Waste Management programs. Contributing factors were more silver recovery through proper waste management, the loss of several large photo processors in King County's service area and the shift to digital photography and digital X-ray machines.
- Recycled 100 percent of biosolids production in forestry, on dryland wheat and in compost, maintaining site capacity for 150 percent of annual production.

2) Regulatory compliance

- Received the Environmental Protection Agency's Gold Award in 2006 at both major treatment plants, a result of no National Pollutant Discharge Elimination System permit violations in the last five years.
- Developed policy for permitting discharges to our sewers from the biotechnology industry.
- Submitted federal and state annual reports on time. Produced annual biosolids quality summary and annual project summaries.

- Completed the year with no biosolids permit violations.

3) Relations with interested parties

- Held open house celebrations at West Point and South Treatment Plants to commemorate 40 years of treating wastewater and protecting the health of people, the environment and Puget Sound. Used this celebration to reach citizens with key information about biosolids management and the EMS.
- In response to suggestions received during our annual water quality survey, established a training center at South Plant to enhance educational opportunities and public tours.

4) Best management practices

- Established dedicated Dewatering Team at South Plant to ensure that operations and maintenance could produce high quality biosolids cake more consistently.
- Completed more training hours as part of our Balanced Scorecard goals.
- Developed plan to optimize polymer usage by adjusting percent total solids based on intended end use of biosolids to control haul costs and reduce truck trips.

Regional Outreach

Over the past year, we supported the National Biosolids Partnership (NBP) to encourage and foster greater participation in the EMS program from Northwest wastewater agencies. In fall 2005, the Northwest Biosolids Management Association (of which we are a founding member), Evergreen Rural Water of Washington, the Oregon Association of Clean Water Agencies and the NBP established a demonstration project to assist agencies interested in establishing an EMS. These agencies helped the NBP evaluate and refine its EMS guidance materials.

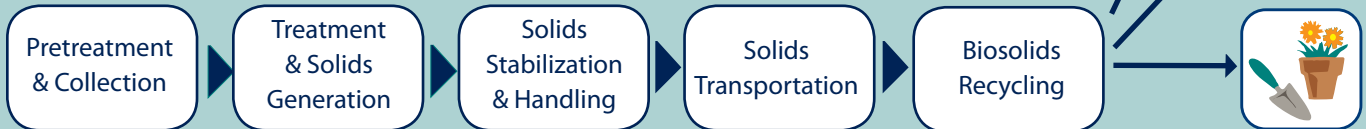
The partners conducted four introductory workshops for regulators and staff from 50 Northwest agencies. Afterwards, 10 agencies agreed to develop their EMS program with assistance from NBP consultants. Training workshops were held in the Seattle area during



Biosolids staff from other agencies assisted King County in their 2005 internal audit. Pictured from left to right are Chris Chesson—City of Everett, Wash., Chris Bailey—City of Albany, Ore., Tim Killingbeck—Clackamas County, Ore. and Lisa Vogel—King County.

THE BIOSOLIDS VALUE CHAIN

The biosolids value chain is a sequence of steps in the production of biosolids from wastewater. All these activities affect the quality and stability of biosolids and their suitability for recycling (land application, compost and soil reclamation). Work groups representing steps in the value chain participate in the WTD EMS and directly influence the quality and final use of biosolids. These groups include Industrial Waste (pretreatment), South and West Point Treatment Plants, Environmental Compliance & Community Relations, Technology Assessment & Resource Recovery and our recycling partners.



spring, summer and fall of 2006 to explain the EMS structure and requirements. As part of our support role, several King County staff attended these workshops, which provided us with updated insights on how to improve our program.

Management Review

The EMS team conducted its formal review with wastewater management in early September. Five members of the management team met and discussed our past performance and future direction. They directed us to continue to participate in the NBP EMS program and maintain certification and to focus on four specific improvements to our EMS in 2006-07:

- 1) Increase WTD staff involvement in the EMS
- 2) Raise EMS awareness by making it required training for all affected WTD staff
- 3) Incorporate all other biosolids committees into the EMS team structure
- 4) Continue to work at the regional level with the Northwest Biosolids Management Association to ensure that the Northwest remains proactive on biosolids practices.

Action plans will be formulated for all of these decisions. Each

plan will define, track and document interim milestones, target dates, responsible staff, interim status and completion dates.

EMS Team

Since August 2000, the EMS team has included a member from each work group in the biosolids value chain, which enhances the team's overall perspective and expertise. Representatives include staff from Industrial Waste, each treatment plant, Environmental Planning and Biosolids Management. The team regularly meets to update our EMS manual and verify that we are on track with our goals and objectives, action plans and commitments. This year we have replaced two of our long-standing members who have contributed greatly to our success. Peggy Rice is now the Industrial Waste representative, taking over for Jim Sifford. South Treatment Plant is now represented by Scott Drennen who replaces Jim Pitts. We welcome the new representatives.



Team members are from left to right:

*Scott Drennen,
Julie Adams,
Peggy Rice,
Lisa Vogel and
Sekhar Palepu.
Not pictured are
Katherine McKee
and Phuong Truong.*



King County

Department of Natural Resources and Parks

Wastewater Treatment Division

KSC-NR-0512

201 South Jackson Street

Seattle, WA 98104



FOR MORE INFORMATION:



Please visit our Web site at

<http://dnr.metrokc.gov/WTD/biosolids/EMS.htm>

- General information on the EMS
- Biosolids quality and annual project summaries
- Annual report on biosolids
- EMS audit reports
- Annual EMS performance report
- EMS Outcomes

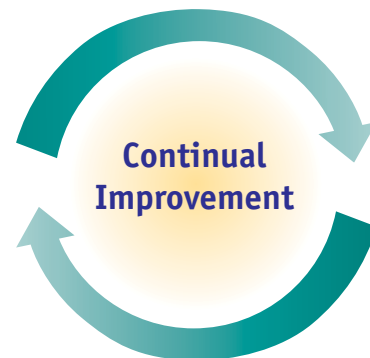


Or call

Lisa Vogel at 206-263-3428

EMS Policy Statement:

King County will produce, use and market biosolids products in ways that are publicly acceptable, cost effective, environmentally sound and follow the national Code of Good Practice.



Alternate Formats Available

206-684-1280 TTY Relay: 711